

REMARKS

Claims 13-16 are currently active. Claims 1-12 have been canceled.

Antecedent support for Claim 13 is found on page 23, lines 2-4, in regard to no grid artifacts.

Antecedent support for Claim 14 "in real time" is found on page 6, line 21.

Antecedent support for Claim 15 is found on page 23, line 6.

Antecedent support for Claim 16 is found on page 23, line 20.

The Examiner has rejected Claims 1-12 as being unpatentable under 35 U.S.C. 112. Claims 1-12 have been canceled.

The Examiner has rejected Claims 1 and 12 as being anticipated by Ebert. Applicant respectfully traverses this rejection. Claims 1-12 have been canceled. However, in regard to Claim 13, Ebert is actually the prior art Perlin noise developed by applicant. As detailed in Ebert et al. 1998, Noise is determined at point (x,y,z) by computing a pseudo-random gradient at each of the eight nearest vertices on the integer cubic lattice and then doing

splined interpolation. Ebert is very efficient but contains some deficiencies. Ebert creates discontinuities across the coordinate-aligned faces of adjoining cubic cells. These discontinuities become noticeable when a Noise-displaced surface is shaded; then the surface normal (which is itself a derivative operator) has a visibly discontinuous derivative. A second deficiency is that whereas gradients are distributed uniformly over a sphere, the cubic grid itself has directional biases, being shortened along the axes and elongated on the diagonals between opposite cube vertices. This directional asymmetry tends to cause a sporadic clumping effect, where nearby gradients that are almost axis-aligned, and therefore close together, happen to align with each other, causing anomalously high values in those regions. Thus, noticeable visual artifacts due to the simply way that gradients were chosen and blended appear. These artifacts are specifically removed by the claimed invention.

The Examiner has rejected Claims 2-11 as being unpatentable over Ebert in view of Ye. Claims 2-11 have been canceled. However, Ye adds nothing in relevant part to the teachings of Ebert. Accordingly, Claim 13 is patentable over the applied art of record. Claims 14-16 are dependent to Claim 13 and are thus patentable.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 13-16, now in this application be allowed.

<p>CERTIFICATE OF MAILING</p> <p>I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p><u>10/28/09</u></p> <p>Date</p> <p><u>Ansel Schwartz</u></p> <p>Ansel M. Schwartz Registration No. 30,587</p>
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